

circadian rhythm pattern(s) and a vehicle or machine operating model or algorithm;

computational means for weighting the operational model according to time of day in relation to the driver or operator circadian rhythm pattern(s) and for deriving, from the weighted model, driver or operator sleepiness condition and producing an output determined thereby; and

a warning indicator triggered by the computational means output, to provide a warning indicator of driver or operator sleepiness.

*1*  
*Beant.*  
~~9~~  
~~--12.~~ A sleepiness monitor for a driver and vehicle, comprising:

a sensor for sensing a steering movement, about a reference position;

a memory, for storing a circadian rhythm pattern or time-of-day physiological reference profile of pre-disposition to sleepiness; and

computational means for computing steering transitions and weighing that computation according to time of day, to provide a warning indication of driver sleepiness.

~~2~~  
~~--13.~~ The sleepiness monitor as claimed in claim ~~11~~, including a driver personal data entry interface, for entry of driver sleep pattern, age, sex, and recent alcohol consumption.

~~3~~  
~~--14.~~ The sleepiness monitor as claimed in claim ~~11~~, including provision, by way of switches, for input of

responses to predetermined questions upon driver or operator condition, including recent sleep history.

4  
1 ~~11~~ --15. The sleepiness monitor as claimed in claim 11, wherein the sensor comprises a magnetic flux coupled, inductive sensor for rate of change of vehicle or machine steerage.

5  
1 ~~11~~ --16. The sleepiness monitor as claimed in claim 11, including a further sensor for vehicle acceleration and/or speed.

6  
1 ~~11~~ --17. The sleepiness monitor as claimed in claim 11, including a further sensor for vehicle cab temperature.

7  
1 ~~11~~ --18. The sleepiness monitor as claimed in claim 11, including a further sensor for ambient light.

8  
--19. A vehicle or machine incorporating a sleepiness monitor as claimed in claim 11.--

#### R E M A R K S

As requested, a substitute specification is being prepared and will be filed shortly in a supplemental amendment. The substitute specification will include the changes to the specification requested in the Official Action as well as various other editorial changes. The tables will be moved from the drawings to the specification as requested.

The drawings have been amended to make editorial changes therein, bearing in mind the criticisms in the